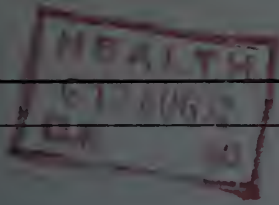


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GUISBOROUGH
URBAN DISTRICT COUNCIL



REPORT
for the Year 1951
of the Medical Officer of Health
W. H. BUTCHER, V.R.D., M.A.,
D.M., D.P.H., BARRISTER - AT - LAW,
SURGEON COMMANDER R.N.V.R.

TO THE CHAIRMAN AND MEMBERS
OF THE
GUISBOROUGH URBAN DISTRICT COUNCIL.

MR. CHAIRMAN AND GENTLEMEN,

I beg to submit my fifth annual report for 1951, the contents and arrangement of which are in accordance with the Ministry of Health's Circular 42/51.

I should commence by recounting how excellently the health of the District has been maintained during the year; and indeed it has, if we confine ourselves to the contents of Table 5—Notifiable Diseases. To-day scarlet fever is a negligible disease, at least in Britain: diphtheria does not figure at all, nor need it figure again except as a rare disease, provided seventy-five per cent or more of the children are allowed by their parents to be protected by the simple procedure of immunization; whooping cough and measles still appear and are responsible, particularly the former, for a certain amount of permanent damage and consequent disablement to some individuals. Moreover your death rates and infant mortality rates over a period of years are satisfactory and the children in your schools are mainly healthy on leaving. But, if I take a wider conception of disease, then the position is not so good as far as I can judge by what I myself observe or read, for as regards a large amount of ill-health I have no statistics, but must glean what I know where and how I can. The surgeries of the family doctors appear full; the pharmaceutical chemists are busy; in addition to the gallons of medicine drunk under the National Health Service a roaring trade is done in proprietary preparations; so there would appear to be much ill-health among us and it may well be asked of what disorders is it composed? Here I have to rely largely on the indirect evidence afforded by an enquiry conducted by Prof. D. M. Dunlop (*British Medical Journal*, 9th February, 1952) and two colleagues from the Department of Therapeutics of the University of Edinburgh in which over 17,000 prescriptions distributed among English practices of different types and in different parts were analysed. No less than 15 per cent of all drugs prescribed was for the purpose of soothing the nerves and inducing sleep. The conclusion reached by these investigators is that except for the minor infections, such as coughs, colds, etc., 55 per cent of the drugs prescribed was for the treatment of disorders not entirely physical, or even predominantly physical, but containing a large nervous or neurotic element—disorders affecting body and mind, or predominantly mind or even mind alone. Such disorders by themselves may or may not shorten life, but they prevent the individual getting the full zest out of life and diminish his or her efficiency in the community. That such disorders have been increasing during the last thirty years or more is the impression of several observers. Since the individual is the product of his environment in the widest sense of the term, it is a self-evident truth that the causes of these disorders, as in the case of germ-caused diseases such as scarlet fever or enteric, must be sought in the environment, in the conditions under which the individual lives—I do not restrict the meaning of conditions to physical ones only—and in his ways of living, his habits and his reaction to events.

In Appendix A I reproduce my observations of October, 1951, to the Public Health Committee on Water Supplies. I repeat what I have written in previous Annual Reports that with the growth of the town and its environs water will be required on a scale larger than that provided by the present supplies. Apart altogether from the building of new houses, a necessity for the public health and also the natural result of the social development of the area, during the last sixty years there has been a complete revolution in our habits of using water. Sixty years ago many houses of the well-to-do did not possess fixed baths, and if they did the baths were not used as frequently as to-day, while the two- or three-gallon flushing cistern was only coming into use. The pan closets in the District number 520 so the matter of their conversions is not a large one as elsewhere; yet I feel that the Local Sanitary Authority should consider whether the time has not arrived when it should cease to countenance any more conversions involving its own Guisborough supply until more water is available. I am aware that to advise such a deliberation is a serious step, but I consider that the position is likely to become a serious one, too, until more water is obtainable from some source or another.

In conclusion I wish to thank the Chairman and members of the Public Health Committee for their support throughout the year, Mr. G. W. Beel for his co-operation and Mr. J. A. Thompson and Mr. E. Ward for their valuable help on all occasions. My administrative work has been made less onerous by the willing labour of Miss M. Imeson and Miss J. Waite.

I am, Gentlemen,

Your obedient servant,

W. H. BUTCHER,

Medical Officer of Health.

BROTTON,

3rd July, 1952.

TABLE 1
Public Health Officers

Whole Time Officers	Guisborough Urban District	Skelton & Brotton Urban District	Loftus Urban District
Medical Officer of Health also District Medical Officer No. 4 Area N.R.C.C.	Dr. W. H. Butcher		
Sanitary Inspectors	Mr. J. A. Thompson*	Mr. J. Pattison	Mr. E. Hollis*
Additional Sanitary Inspectors	Mr. E. Ward		

*Also Surveyor of the district concerned

SECTION I

Statistics and Social Conditions of the Area

Population

The Registrar General's estimate of the population of the district in the mid-year 1951 is 8,559 as compared to an estimate of population in the mid-year 1950 of 8,795.

General Statistics

I am indebted to the Financial Officer of the Council for the following figures:—

Area of the district in acres	....	....	18,921
Number of inhabited houses according to the rate books	....	....	2,497
Rateable Value	....	....	£39,187
Sum represented by a penny rate	....	....	£159/7/8

Social Conditions

The district consists of the historic country town of Guisborough, nestling beneath the bold escarpment of the Cleveland Hills, with the ruins of its ancient priory, and the villages or hamlets of Newton-under-Roseberry, Pinchinthorpe, Hutton, Upleatham, Dunsdale, Yearby, Wilton, Lazenby and Lackenby. These are situated amidst agricultural valleys and wooded hills, while northwards in the low-lying pastures towards the Tees there is situated the growing development of Imperial Chemical Industries Ltd. To the south Roseberry Topping, that perky little eminence, as it has been described, is a landmark rising to the height of 1,057 feet and visible for many miles. In addition to Imperial Chemical Industries already mentioned there are in the town itself a busy foundry and a shirt factory, the latter employing largely female labour. With the growth present and prospective of the town and of its environs Guisborough within a few years will appear pre-eminent in its ancient role as the capital of Cleveland.

TABLE 2

Vital Statistics

		MALE	FEMALE	TOTAL
Live Births	....	77	62	139
Legitimate	....	72	56	128
Illegitimate	....	5	6	11
Still Births	....	2	4	6
Legitimate	....	1	4	5
Illegitimate	....	1	—	1

Deaths of Infants under 1 year of age

		MALE	FEMALE
Total	....	5	2
Legitimate	....	4	2
Illegitimate	....	1	—

The number of births registered being 139 gives a birth-rate of 16.3 per 1,000 of the population. Allowing for the differing age and sex distribution of the population in different areas, the birth-rate corrected by this comparability factor is 17.1 compared to 15.5 for England and Wales. Seven infants under the age of one year died, giving an infant mortality rate of 50 per thousand live births compared to the rate for England and Wales of 29.6. This is the second year in succession in which the infant mortality has been well above that for England and Wales.

TABLE 3

Analysis of Infantile Mortality

CAUSE OF DEATH	Under 1 wk.	1-2 wks.	2-3 wks.	3-4 wks.	Total under 4 wks.	1-3 mths.	3-6 mths.	6-9 mths.	9-12 mths.	Total deaths under 1 year.
Congenital										
Malformations	1	—	—	—	1	—	—	1	—	2
Heart failure										
Prematurity	—	—	—	—	—	—	—	—	—	—
Prematurity	3	—	—	—	3	—	—	—	—	3
Asphyxia										
Nematorum	1	—	—	—	1	—	—	—	—	1
Influenza	—	—	—	—	—	—	—	1	—	1
TOTALS	5	—	—	—	5	—	—	2	—	7

TABLE 4—Vital Statistics

CAUSES OF DEATH

		MALE	FEMALE
Tuberculosis, Respiratory	—	—
Tuberculosis, other	—	—
Syphilitic disease	—	—
Diphtheria	—	—
Whooping Cough	—	—
Meningo-coccal infections	—	—
Acute poliomyelitis	—	—

TABLE 4—Vital Statistics—continued

CAUSES OF DEATH—continued

	MALE	FEMALE
Measles	—	—
Other infective and parasitic diseases	—	—
Malignant neoplasm of stomach	2	1
Malignant neoplasm of lung, bronchus	2	—
Malignant neoplasm of breast	—	—
Malignant neoplasm of uterus	—	1
Other malignant and lymphatic neoplasms	5	2
Leukaemia	—	—
Diabetes	—	3
Vascular lesions of the nervous system	6	14
Coronary disease, angina	9	2
Hypertension with heart disease	2	1
Other heart diseases	6	16
Other circulatory diseases	2	—
Influenza	9	2
Pneumonia	3	1
Bronchitis	5	1
Other diseases of respiratory system	3	—
Ulcer of stomach and duodenum	1	—
Gastro-enteritis and diarrhoea	—	—
Nephritis and nephrosis	1	—
Hyperplasia of prostate	1	—
Pregnancy, childbirth, abortion	—	1
Congenital malformations	2	—
Other defined and ill-defined diseases	7	7
Motor vehicle accidents	—	—
All other accidents	—	—
Suicide	2	—
Homicide and operations of war	—	—
ALL CAUSES	68	52

The deaths are classified under the thirty-six headings based on the Abbreviated List of the International Statistical Classification of Diseases, Injuries and Causes of Death, 1948. Table 4 shows clearly what killed residents in Guisborough in 1951. The 120 deaths give a death rate of 14 per thousand of the population. Allowing for the differing age and sex distribution of the population in different areas, the death rate correction by this comparability factor is 13.7 compared to 12.5 per thousand for England and Wales.

TABLE 5
NOTIFIABLE DISEASES, 1951
(other than Tuberculosis)

	All Ages	Under 1 year	1 year	2	3	4	5—	10—	15—	25—	35—	45—	65—
Scarlet Fever	13	—	1	—	2	2	5	2	1	—	—	—	—
Pneumonia	3	—	—	—	1	—	1	—	—	—	—	3	—
Erysipelas	1	—	—	—	—	—	—	—	—	—	—	—	1
Measles	125	1	10	21	20	26	45	—	2	—	—	—	—
Whooping Cough	30	1	3	5	4	3	13	1	—	—	—	—	—

SECTION II

Infectious Diseases

Table 5 shows the incidence of notifiable infectious diseases except tuberculosis.

Diphtheria

No case was notified. Immunization was available to children either at the surgeries of the family doctors, at the Northgate School Clinic of the North Riding Education Committee or at the Infant Welfare Centre of the Local Health Authority in the Southside Methodist Church Schoolroom. In addition, reinforcing doses were given at the schools to children who had been immunized earlier in life by the assistant school medical officer, Dr. Noel Hay.

TABLE 6

Immunization against Diphtheria

<i>Age Groups</i>			
0 to 4 years	....	....	143
5 to 14 years	....	....	14
Reinforcing Doses	....	....	311

Ringworm of the Scalp

This troublesome condition caused by several species of fungus was found to be fairly prevalent in some of the schools. Its eradication, a tedious and at times lengthy process, was vigorously undertaken by Dr. Noel Hay with the result that at the end of the year there was one known case in the schools. The hairdressing shops were asked at the same time to help by keeping their equipment in a cleanly state.

Smallpox

Thirty-eight immunizations were performed during the year by the family doctors. This important preventive measure appears almost disregarded.

Tuberculosis

Nine new cases of respiratory tuberculosis were notified during the year and one case of non-respiratory tuberculosis.

TABLE 7
Tuberculosis

AGE GROUPS			RESPIRATORY FORM		NON-RESPIRATORY FORM	
Years			Male	Female	Male	Female
0 to 4	....	....	1	—	—	—
5 to 9	....	....	—	—	—	1
10 to 14	....	....	—	—	—	—
15 to 19	....	....	—	2	—	—
20 to 24	....	....	—	—	—	—
25 to 34	....	....	2	—	—	—
40 to 55	....	....	2	1	—	—
65 and over	....	....	—	1	—	—

SECTION III—Water Supplies

TABLE 8
Bacteriological Results of the Treated Water of the
Guisborough Urban District Council

No.	Date 1951	No. of colonies developing on Agar per ml. at 37° C. in 2 days	Presumptive Coliform Reaction from 100 ml.	Bact. Coli Type 1 in 100 ml.
1	23rd January	absent	absent	absent
2	30th January	30	absent	absent
3	13th February	50	absent	absent
4	28th March	50	absent	absent
5	9th April	10	present	absent
6	25th April	180	absent	absent
7	16th May	20	absent	absent
8	12th June	80	absent	absent
9	26th June	less than 10	present	present
10	17th July	4920	present	present
11	30th July	340	present	present
12	20th August	3	present	present
13	21st August	80	present	present
14	24th August	absent	absent	absent
15	25th August	20	absent	absent
16	29th August	120	absent	absent
17	3rd September	10	present	absent
18	11th September	30	absent	absent
19	30th October	20	present	absent
20	20th November	20	absent	absent
21	17th December	20	absent	absent

TABLE 9

**Chemical Results in Parts per Million of the Treated Waters
of the Guisborough Urban District Council**

No. of Sample				1	12
Date of sample	....	....	....	23rd January	20th August
Turbidity parts per million silica scale	....			3	5
Reaction pH	....	....	....	6.8	8.4
Total solids	....	....	....	90	95
Free carbon dioxide	....	....	....	3	absent
Chloride as chlorides	....	....	....	16	13
Alkalinity as calcium carbonate	....			15	30
Hardness: total	....	....	....	30	25
temporary	....	....	....	15	25
Nitrate Nitrogen	....	....	....	0.0	0.0
Nitrite nitrogen	....	....	....	absent	less than 0.01
Ammoniacal nitrogen	....	....	....	0.000	0.005
Albuminoid nitrogen	....	....	....	0.36	0.005
Oxygen absorbed in 4 hours at 27° C.	....			0.50	2.9
Metals: Iron	....	....	....	0.05	0.22
Manganese	....	....	....	0.05	0.07
Other metals	....	....	....	absent	absent
Residual chlorine	....	....	....	0.13	absent

TABLE 10
Miscellaneous Waters—Bacteriological Results

Source	Date 1951	No. of colonies developing on Agar per ml. at 37° C. in 2 days	Presumptive coliform reaction from 100 ml.	Bact. Coli Type 1 from 100 ml.
Hutton School	Sept. 26	80	present	present
Hutton Reservoir	Oct. 9	20	present	present
Hutton Village	Oct. 9	20	present	present
Rowland Keld	Oct. 9	less than 10	present	present
Hutton School	Oct. 10	30	present	present
Rowland Keld	Oct. 16	absent	present	present
Rowland Keld	Oct. 20	240	present	present
Rowland Keld	Nov. 17	absent	absent	absent
Newton-under- Roseberry	Nov. 20	80	present	present
	Dec. 17	100	present	absent
Carr Cottages, Nunthorpe	Jan. 30	2760	present	present
	Feb. 12	50	present	absent
	Feb. 12	12	present	absent
Mount Pleasant	Dec. 17	10	present	absent
Upleatham, Standpipe (opposite P.O.)	Nov. 20	80	present	present
	Dec. 17	50	present	absent
Wilton Village	June 1	absent	absent	absent
No. 5 Wilton Village	Nov. 11	30	present	absent
No. 5 Wilton Village	Dec. 17	50	absent	absent
Yearby Pump	Nov. 20	280	present	absent
Yearby Pump	Dec. 17	40	present	absent

TABLE 11

Chemical Results in parts per million

Miscellaneous Waters

Source	Hutton	Carr Cottages
Date of Sample	16th October	12th February
Turbidity parts per million Silica Scale	less than 3	less than 3
Reaction pH	7.4	7.1
Total Solids	65	880
Free Carbon Dioxide	a trace	35
Chlorine in Chlorides	15	172
Alkalinity as Calcium Carbonate	13	305
Hardness: Total	23	540
Temporary	13	305
Nitrate Nitrogen	0.00	2.4
Nitrite Nitrogen	less than 0.01	less than 0.01
Ammoniacal Nitrogen	0.00	0.00
Albuminoid Nitrogen	0.00	0.091
Oxygen absorbed in 4 hrs. at 27° C.	0.05	1.6
Metals: Iron	0.05	absent
Other metals	absent	absent
Residual Chlorine	absent	absent

TABLE 12
Bacteriological Results
Cleveland Water Co. Treated Waters

	Date 1951	No. of colonies developing on Agar per ml. at 37° C. in 2 days	Presumptive Coliform Reaction from 100 ml.	Bact. Coli Type 1 from 100 ml.
1	23rd January	730	absent	absent
2	13th February	110	absent	absent
3	13th March <i>a</i>	1	absent	absent
4	13th March <i>b</i>	absent	absent	absent
5	13th March <i>c</i>	absent	absent	absent
6	14th August	absent	absent	absent
7	29th October	10	absent	absent
8	6th November	20	absent	absent

a. Upleatham Reservoir. *b.* Lockwood Beck Reservoir. *c.* Skelton Reservoir.

TABLE 13
Chemical Results in parts per million
Cleveland Water Co.

No. of Sample	....	....	No. 3	No. 4	No. 5
Date of Sample	....	....	13.3.51	13.3.51	13.3.51
Reaction pH	....	....	6.7	6.8	6.6
Total Solids	....	....	100	100	100
Chlorine as Chlorides	....	....	18	18	18
Hardness: Permanent	....	....	3.5	4.1	4.4 (degrees)
Temporary	....	....	0.3	0.3	0.3 (degrees)
Nitrogen as Nitrates	....	....	0.71	0.75	0.64
Free Ammonia	....	....	0.26	0.15	0.26
Albuminoid Ammonia	....	....	0.084	0.073	0.665
Oxygen absorbed in 4 hrs. at 27° C.	....	....	1.5	0.8	1.3

The results of Nos. 9, 10, 11, 12 and 13 of your Guisborough water on Table 8 are unsatisfactory; during this period the three filters were being cleaned, repacked with material and brought into use again; for some time after this operation the filters were acting merely mechanically and there was no biological action which takes time to develop depending as it does on the growth of the necessary micro-organisms.

The results on Table 10 are generally unsatisfactory and illustrate my observations on Water Supplies contained in Appendix A.

The results in Tables 12 and 13 referring to the supply of the Cleveland Water Company show on all occasions a satisfactory water.

Of the 2497 houses 2215 are supplied into the dwellings from the mains of public water undertakings and 43 by means of standpipes. The remaining 239 derive their water from wells or various small supplies.

SECTION IV

Inspection and Supervision of Food

In February I gave a filmstrip talk on Clean Food at the Church Hall; the audience was composed of seven persons of whom one was Councillor R. S. Pallister, another Mr. J. Thompson and yet another Mr. E. Ward. That meagre response was obtained notwithstanding that I had circularised every food retailer in the district. It is unlikely, therefore, that food will be prepared and sold under more cleanly conditions as a result of further visual or verbal exhortations.

In pleasing contrast to that experience was the filmstrip talk that I gave at the Stanghow County Modern School to the staff of the School Meals Service in my districts; the attendance was practically one hundred per cent. I thank Miss J. Scott, the School Meals Organiser, who made the talk possible.

Byelaws

Byelaws made under Section 15 of the Food and Drugs Act, 1938, for securing the observance of Sanitary and Cleanly Practices and Conditions in connection with the Handling, Wrapping and Delivery of Food and Sale of Food in the open air.

Food Poisoning

No outbreak of food poisoning was notified to me.

Paragraph 20—Milk and Dairies Regulations 1949

No action was necessary during the year under the above Regulations.

Ice Cream

Two premises are on the register for the manufacture of ice cream. In addition there are eleven premises where ice cream previously packed by the producers is sold. These were regularly inspected; thirty-nine samples of ice cream were taken and conveyed to the Public Health Laboratory at Northallerton under approved conditions and submitted to the Methylene Blue Test and to bacteriological examination. Of the ice cream twenty-nine samples were satisfactory by the Ministry of Health recommended standard; of the iced lollies all the samples were satisfactory. The producers within the district were informed of their results and where these were persistently unsatisfactory the producer was given a practical demonstration of how ice cream of the highest grade of purity can be made with his plant. In the case of producers outside the district the information was passed to the Medical Officer of Health of the district concerned and the retailer also informed.

Bakehouses

There are five in the district. Twenty-five inspections were carried out.

Meat Inspection

There are six slaughter houses licensed by the Local Sanitary Authority which were inspected on two occasions. 293 tins (various) amounting to approximately 408½ lbs. were voluntarily surrendered.

Food Retail Premises and the Meat Distribution Centre

Sixty-five inspections were made during the year.

Milk Supply

There are eleven retail milk distributors in the district.

SECTION V—Housing

I am indebted to your Sanitary Inspector, Mr. J. A. Thompson, for the figures produced in Table 14 below.

TABLE 14
Housing Statistics

Number of New houses completed in 1951

(a) By the Council	....	....	....	....	54
(b) Other	....	....	....	....	7

1. *Inspection of dwelling-houses during the year*

(1) (a) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts)		210
(b) Number of inspections made for the purpose	....	....		362
(2) (a) Number of dwelling-houses (included under sub-head (1) above) which were inspected and recorded under the Housing Consolidation Regulations, 1925 and 1932	....	....		Nil
(b) Number of inspections made for the purpose	....	....		Nil
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	....			Nil
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-head) found to be not in all respects reasonably fit for human habitation	....	....	....	190

2. *Remedy of defects during the year without service of formal notices*

(1) Number of defective dwelling-houses rendered fit in consequence of informal action by the local authority or their officers				179
(2) Number of dwelling houses where work is in progress but not yet completed	....	....	....	6
(3) Number of Notices in course of preparation (not yet served)	....			Nil
(4) Number of Notices outstanding	....	....	....	5

Table 14—Housing Statistics—continued

3.	Action under Statutory Powers during the year				
A.	Proceedings under Sections 9, 10 and 16 of the Housing Act, 1936.				Nil
B.	Proceedings under Public Health Acts				
	(1)	Number of dwelling-houses in respect of which notices were served requiring defects to be remedied			3
	(2)	Number of dwelling-houses in which defects were remedied after service of formal notices			
	(a)	By owners	....	....	Nil
	(b)	By local authority in default of owners	....	....	Nil
C.	Proceedings under Sections 11 and 13 of the Housing Act, 1936				
	(1)	Number of dwelling-houses in respect of which Demolition Orders were made			Nil
	(2)	Number of dwelling-houses demolished in pursuance of Demolition Orders			Nil
D.	Proceedings under Section 12, Housing Act, 1936				Nil

Housing Act, 1935 (Overcrowding)

Considerable overcrowding exists, but no recent or accurate figures are available

SECTION VI

Sanitary Circumstances of the District

I give below a table of some of the sanitary work done during the year by your Sanitary Inspector, Mr. J. A. Thompson.

TABLE 15

Nuisance Inspections

Total No. of Inspections made for nuisances only	....	....	....	399
Nuisances found	....	374	Total needing abatement	374
Nuisances in hand, at end of previous year	....	18	Abated during year	373
			Outstanding at end of year	19
Notices served, informal	....	182	Complied with	163
Notices served, statutory	....	Nil	Complied with	Nil
Total number of summonses or other legal proceedings	....			Nil

Drainage and Sewerage

The normal extension of the sewerage system has taken place in connection with the housing site developments in Guisborough.

No progress has been made in connection with the sewerage and sewage disposal of that portion of the district adjacent to the growing developments of Imperial Chemical Industries Ltd. The matter has been in the hands of the Council's consulting engineers since 1947 with a view to draining this area into the Eston sewers, but the area still remains inadequately sewered and badly needs effective treatment units.

Drainage and Sewerage—continued

TABLE 16

Chemical Results in parts per million

Sump in Cellar of Licensed Premises (17/5/51)

Appearance: grey opalescence with a black flocculent deposit and a black supernatant layer of mineral and organic debris together with a vigorous growth of beggiatoa and many protozoa (chiefly paramoecium).

Colour (filtered)	....	20	Turbidity	....	greater than 100
			Odour		stale turning foul: "cabbage water"
pH	....	7.5	Free Carbon Dioxide	....	13
Electric Conductivity	....	810	Total Solids	....	570
Chlorine present as Chloride		42	Alkalinity as Calcium Carbonate		290
Hardness: Total	....	390	Carbonate	290	Non-Carbonate 100
Nitrate Nitrogen	....	0.0	Nitrite Nitrogen		approx. 0.5
Ammoniacal Nitrogen	....	4.6	Oxygen absorbed	....	34
Albuminoid Nitrogen	....	4.0	Biochemical Oxygen Demand		75 (5 days, 18.3° C.)
Metals: Iron	6.4		Manganese	0.23	Other metals absent
Suspended Matter: Total	235		Suspended Matter volatile on ignition	165	

Bacteriological Results

1 day @ 37° C. 2 days @ 37° C. 3 days @ 20° C.

No. of Colonies developing on Agar	.....	.....	.....
	Present in	Absent from	Probable No.
Presumptive Coli-aerogenes Reaction	0.1 ml.	0.01 ml.	2,500 per 100 ml.
Bact. Coli (Type 1)	.... 0.1 ml.	0.01 ml.	2,500 per 100 ml.
Cl. welchii Reaction	.... 0.1 ml.	0.01 ml.	.....

A complaint was received alleging a seepage of sewage matter from the sewers into the cellar of a licensed premises. The position was investigated and as a result of my observations and of the analysis contained in Table 16 I formed the opinion that the foulness of the contents of the cellar sump was due to the discharge therein of the washings of glasses, etc. and not to the seepage of sewage matter.

TABLE 17

Stream Water of the Tockett Beck at Skelton & Brotton—Guisborough Boundary

Chemical Results in parts per million (6/11/51)

Appearance: Opalescent with a light brown flocculent deposit of mineral and organic debris together with a few diatoms and a number of protozoa

			Turbidity	....	7
Colour (filtered)	....	25	Odour	slightly earthy	
pH	....	7.8	Free Carbon Dioxide	....	3
Electric Conductivity	....	760	Total Solids	....	595
Chlorine present as Chloride		29	Alkalinity as Calcium Carbonate		125
Hardness: Total 400			Carbonate 125		Non-carbonate 275
Nitrate Nitrogen	....	2.4	Nitrite Nitrogen		approx. 0.01
Ammoniacal Nitrogen	....	0.18	Oxygen absorbed	....	3.1
Albuminoid Nitrogen	....	0.21	Residual Chlorine	....	Nil
Metals: Iron	....	0.30	Biochemical Oxygen Demand		
Manganese	....	0.08	(5 days, 18.3° C.)	....	2.8
Other metals absent					

In October the question of the cleanliness of the Tockett Beck flowing into the Urban District of Skelton and Brotton from the Guisborough Urban District was referred to me. I visited the beck where it leaves this district and also inspected it at various points in its course from the west. I formed the opinion that at the time of my visits the stream was reasonably clean and this is confirmed by the chemical analysis given in Table 17 which shows on the basis of the biochemical oxygen demand that the stream would be termed "fairly clean" according to the Royal Commission on Sewage Disposal.

Closet Accommodation

25 pan closets were converted to water closets.

87 new water closets were provided for new buildings.

101 new sanitary pans and 56 new dustbins were provided.

329 tests and inspections were made of defective or new drainage systems.

There were at the end of the year 2,178 water closets and 520 pan closets. The Council pays a grant of £8 or half the cost, whichever is the cheaper, of each approved conversion.

Scavenging

There has been no change in the system of public cleansing. The refuse tip is maintained in a very satisfactory manner; the land reclaimed by tipping is returned to agriculture.

The annual cost of collection and disposal of refuse is estimated at £3,000.

Common Lodging Houses

There is one in the district. It was inspected on six occasions. Its general condition is satisfactory.

Smoke Abatement

No observations were made during the year.

Tents, Vans and Sheds

These enter the district in the summer and are subject to regular inspections.

Rat Disinfestation Order, 1943

Premises treated	....	....	5
Sewers treatments	....	....	2
Refuse tip treated	....	....	2

Shops Acts, 1930—Sections 10 and 13

Sixty-five visits were paid under the above Act.

Squatters' Camp, Dunsdale

At the end of the year three families were still in occupation.

Rehousing

236 visits were paid in connection with applications for Council houses.

Byelaws in force in the District

Byelaws in respect of cleansing of footpaths and pavements; nuisances; common lodging houses; and slaughter-houses: 24th July, 1893. Byelaws with respect to tents, vans and sheds: 16th November, 1917. Byelaws in respect of new streets and buildings: 27th April, 1925. Building Byelaws: 10th March, 1939.

Byelaws with respect to swimming baths and bathing pools: 18th October, 1946.

SECTION VII : Factories Act, 1937 and 1948

The following figures have been returned to the Director of Statistics, Ministry of Labour and National Service, regarding factories in the district.

TABLE 18

1. Inspections for the purposes of provisions as to health (including inspections made by Sanitary Inspector)

Premises	No. on Register	No. of Inspections	No. of written Notices	Occupiers Prosecuted
(I) Factories in which Sections 1,2,3,4, and 6 are to be enforced by Local Authorities	11	41	—	—
(II) Factories not included in (I) in which Section 7 is enforced by Local Authority	24	27	—	—
(III) Other premises in which Section 7 is enforced by the Local Authority (excluding out-workers' premises)	3	18	—	—
TOTAL	38	86	—	—

APPENDIX A

Some Observations on Water Supplies

TO THE CHAIRMAN AND MEMBERS OF THE PUBLIC HEALTH
COMMITTEE, GUISBOROUGH URBAN DISTRICT COUNCIL

MR. CHAIRMAN AND GENTLEMEN,

I propose in this report to deal particularly with the supply to Hutton Lowcross, but my conclusions apply generally to all water supplies in the district. My reason for choosing the Hutton supply as the main theme on which to base my arguments and conclusions is that a sample taken at Hutton School by Mr. Aspin, the County Health Officer, on the 26th September, 1951, was found to contain faecal *Bacillus Coli*, a fact already known and actually recorded by my predecessor, Dr. C. R. Gibson, in his Annual Report for 1946; he uses the term "matter of excremental origin" which means the same as faecal *B. Coli*. This water is bound to contain faecal *B. Coli* since it is derived from, or passes through, moorland—the grazing ground of sheep, the habitat of the grouse, the fox and other wild forms of life. In fact, in judging such a water bacteriological examinations tell us nothing more than we could discover by an examination of the gathering ground, so I place reliance in such cases, not on bacteriological examinations, but on the freedom of the gathering ground from human pollution or potential human pollution.

This supply was brought into use in 1865. At present it serves some seventy-five houses. I have carefully examined the reports of my two predecessors in office from 1882 onwards, Dr. W. W. Stainthorpe and Dr. C. R. Gibson, and there is no record of any case of typhoid among those who drank the water. I mention typhoid fever because it is the chief water-borne disease in this country. So this water has a most honourable, a blameless, record; there is an old saying—the proof of the pudding is the eating. But during those eighty-six years a vast increase has taken place in our knowledge of the spread of typhoid; it is known that typhoid bacilli are passed in the excreta and urine, not only of those suffering from typhoid, but of a certain number of those who have had typhoid and remain carriers of the bacilli. On the other hand typhoid fever was fairly prevalent in Britain up to the middle of the first decade of the century; it has declined

since then because we are more careful with our water supplies, so that to-day it is a rare disease in Britain. The Hutton water is not subjected to purification by the three procedures that form the essential part of current practice regarding any sizeable supply. These procedures are:—

- (1) Storage.
- (2) Effective filtration.
- (3) Effective chlorination as a final safeguard before delivery to the consumer.

I shall discuss these procedures and their application at Hutton more fully later. At present reliance must be placed entirely on one's opinion of the gathering ground and the question must be asked and answered if possible:—

“ Is the gathering ground free from human pollution or potential human pollution ?” There are no houses and no cultivated land so I can answer the first part of the question in the affirmative; the gathering ground is to-day, to the best of my knowledge, free from human pollution. But is it free from potential human pollution? There's the rub, for I have to prove a negative, a most difficult thing to do satisfactorily, because at some time or other some hiker suffering from typhoid or being a carrier might come along and choose to defaecate into the Race, the main open channel that courses across the moor to the reservoir. This has never happened to our knowledge in the last sixty-nine years. It may never happen in the next sixty-nine years, or on the other hand it may happen tomorrow. Each of us can decide for himself whether drinking this water is a risk that a reasonable man would run, but obviously it is impossible for anyone to say that such pollution might not take place. In the future with the proposed nationalised park on the Cleveland moors it is possible that more people may visit the moors, or at least may wander more widely over them, and what is infinitely more dangerous than hikers there may be more campers. So more chances of potential pollution of the gathering ground are to be envisaged.

I shall now turn to the question of the purification of the supply; I have mentioned three processes as being essential; I use the term essential rather than ideal, for what some may consider ideal becomes essential in public affairs; otherwise an individual who departs from the ideal is liable to be criticised for not advising what others consider essential.

- (1) Storage.

This is a valuable procedure, for typhoid bacilli do not survive longer than three weeks in reservoir water. It would involve the construction of a substantial reservoir. Your consulting water engineer, Mr. Rafferty, in 1948 expressed his opinion regarding the perpetuation of this small and uneconomic supply with which I fully agree. It is, therefore, unnecessary to pursue this aspect further.

(2) Filtration.

The present filter is a crude affair of breeze which adequately keeps back gross particles such as bits of bracken, insects, etc.

(3) Chlorination.

I would stress that chlorination is useless, in fact worse—a misleading sham unless it is adequately supervised with constant tests of the residual chlorine in the water. A water which has been stored for some weeks and adequately filtered will have a more or less constant organic and bacterial content so that successful chlorination is relatively a simple matter. The Hutton water, however, is neither stored nor adequately filtered so its organic content varies tremendously from time to time depending on rainfall, state of the vegetation, etc. Successfully to chlorinate this water is a difficult procedure requiring constant and intelligent attention. In addition chlorination to be effective must be allowed a definite contact time in which the chemical can kill the bacteria. It is no use chlorinating the water and delivering it to the consumer a few minutes later. Sufficient contact time could be given in the present reservoir provided the chlorinator was placed above the reservoir and not below it and means were taken to prevent the water taking a short cut from the entrance to the exit of the reservoir. I would stress again, however, that chlorination should be used as the final, not as the only, safeguard.

And if sand filters were installed and adequately supervised and a chlorinator were installed at the right point above the reservoir and also adequately supervised the treated water would be received into and remain in an open service reservoir for at least two days. This reservoir storing treated water should according to modern practice be covered. I know to cover a service reservoir amidst lonely moor sounds rather like painting the lily. I would have thought that raising the barbed wire to six feet or more so as to prevent persons climbing over would have been adequate, but here again some infectious hiker might be envisaged wilfully throwing excreta over or through the wire into the reservoir. I am aware that to many such a picture appears fantastic.

The same criticism that is applicable to the Hutton water is applicable to all the small supplies in the district. Take the Newton supply, a water for which I have a high regard. I do not believe that this water is open to any human pollution. Here again I have to prove a negative; anyone can say that hikers might jump over the hedge into the field and soil the ground and I cannot prove they might not. No method of effective treatment of this supply to twenty-one houses is possible unless works were completed out of all proportion to the value of the supply.

The real solution is not the perpetuation of small, antiquated and uneconomic supplies but the provision of more water under constant and adequate supervision as is provided by the Guisborough supply and by that of the Tees Valley Water Board.

Perhaps it may be felt that I have made no immediate constructive suggestion regarding the Hutton water; I have not done so because any such suggestion would not

suffice to bring the supply up to the current standards of purification and the success of the new measures would depend entirely on how adequately they are supervised; in my experience small supplies do not receive this supervision. For instance, the replacement of the crude breeze filter by two sand filters suggests itself; also the removal of the chlorinator to above the reservoir and the raising of the height of the fence around the reservoir; but the usefulness of these measures would depend on what adequate and intelligent supervision both the chlorination and the filtration receive. And lastly the old pipelines should be overhauled and where necessary replaced. It may be that on further exploration the Committee will find difficulties in having such works carried out; or the Committee may consider that such measures are inadvisable because they are only partial remedies, even if they be adequately supervised and do not fully meet current standards of water purification. Finally, the Committee may feel after due consideration that they are carrying a heavier burden of responsibility than they care to carry and so may resolve to circularize the householders advising them to boil the water. If that be done at Hutton, it would be logical to do the same at Newton, Yearby, Upleatham and every small supply in the district. I would add that boiling the water is easy to recommend; but memories are short and such a tedious procedure resulting in an unpalatable drink is soon abandoned by most householders.

Your obedient servant,

W. H. BUTCHER,

Medical Officer of Health.

Area Health Office,

Brotton, Saltburn.

25th October, 1951.

APPENDIX B

Rainfall in the District 1951

<i>Period</i>			<i>Inches</i>	<i>Period</i>			<i>Inches</i>
January	....	....	2.28	August	....	....	6.24
February	....	....	3.41	September	....	....	1.10
March	....	....	3.93	October	....	....	2.25
April	....	....	0.46	November	....	....	5.87
May	....	....	6.07	December	....	....	2.09
June	....	....	3.17				<hr/>
July	....	....	2.78	TOTAL	....	....	40.65

Annual Rainfall

			<i>Inches</i>
1948	....	....	27.31
1949	....	....	23.85
1950	....	....	35.31

